



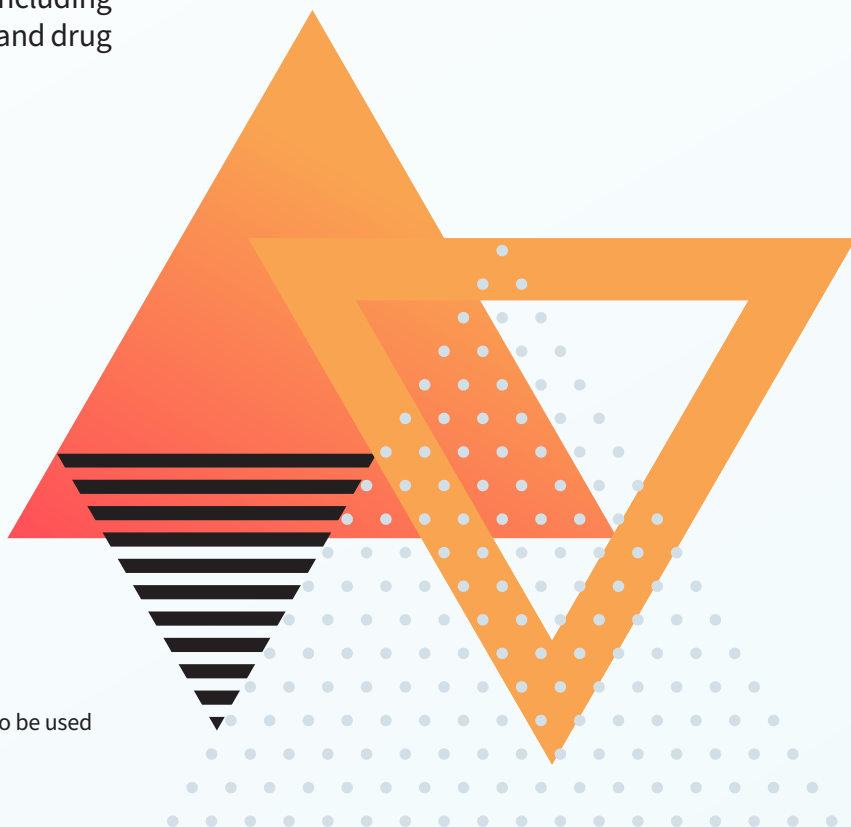
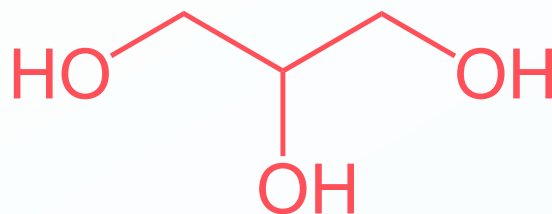
# Liver Fibrosis Discovery Panel

Effective prognosis and treatment of liver disease depends on the extent of liver damage and fibrosis. Improving prognosis requires finding early and intermediate markers of liver fibrosis. Since liver pathogenesis is closely linked to metabolic dysfunction, metabolites can be leveraged as biomarkers for liver fibrosis. Other biomarkers of liver fibrosis are limited by their lack of specificity to predict etiology and lack of sensitivity to distinguish intermediate stages.

The Liver Fibrosis Discovery Panel analyzes 105 metabolites associated with the initiation and progression of liver fibrosis. This panel will provide deeper insights for researchers and thereby help them address key factors in liver fibrosis, including mechanistic insights, personalized medicine, and drug discovery/testing.

## Applications

- ▶ Nutrition Research
- ▶ Cardiovascular Disease
- ▶ Diabetes
- ▶ Oncology



Disclaimer: This method is for Research Use Only and is not to be used for diagnostic purposes.

## Metabolite List

### Inflammation Pathway Metabolites.....17

histamine  
tryptophan  
kynurenine  
kynurenine  
palmitate (16:0)  
stearate (18:0)  
palmitoleate (16:1n7)  
oleate/vaccenate (18:1)  
eicosapentaenoate (EPA; 20:5n3)  
docosapentaenoate (n3 DPA; 22:5n3)  
docosahexaenoate (DHA; 22:6n3)  
arachidonate (20:4n6)  
prostaglandin E2  
8-HETE  
trimethylamine N-oxide  
retinal, all trans  
hippurate

### Oxidative Stress Pathway Metabolites .....18

sarcosine  
dimethylglycine  
methionine  
methionine sulfone  
methionine sulfoxide  
cysteine  
taurine  
creatine  
creatinine  
glutathione, reduced (GSH)  
glutathione, oxidized (GSSG)  
cysteinylglycine  
2-hydroxybutyrate (AHB)  
lactate  
1-eicosenoyl-GPC (20:1)  
1-behenoyl-GPC (22:0)  
nicotinamide adenine dinucleotide phosphate reduced (NADPH)  
bilirubin (E,E)

### Extracellular Matric Remodeling Pathway Metabolites ..... 15

glycine  
threonine  
alanine  
glutamate  
glutamine  
1-methylhistidine  
lysine  
phenylalanine  
tyrosine  
trans-4-hydroxyproline  
phenylalanylserine  
phenylacetylglucine  
UDP-glucose  
UDP-galactose  
fucose

### Ceramide Metabolism Pathway Metabolites..... 9

sphinganine  
N-myristoyl-sphingosine (d18:1/14:0)  
N-palmitoyl-sphingosine (d18:1/16:0)  
N-stearoyl-sphingosine (d18:1/18:0)  
N-arachidoyl-sphingosine (d18:1/20:0)  
glycosyl-N-behenoyl-sphingosine (d18:1/22:0)  
glycosyl-N-erucoyl-sphingosine (d18:1/22:1)  
sphingosine  
sphingosine 1-phosphate

### Energetics Pathway Metabolites ..... 11

leucine  
isoleucine  
valine  
glucose  
pyruvate  
citrate  
cis-aconitate  
isocitrate  
alpha-ketoglutarate  
succinate  
fumarate

### Bile Acid Metabolism Metabolites..... 14

cholate  
glycocholate  
taurocholate  
chenodeoxycholate  
glycochenodeoxycholate  
taurochenodeoxycholate  
glycodeoxycholate  
taurodeoxycholate  
lithocholate  
taurolithocholate  
ursodeoxycholate  
glycoursodeoxycholate  
tauroursodeoxycholate  
taurohyodeoxycholic acid

### Lipid Metabolism Metabolites..... 21

butyrate/isobutyrate (4:0)  
cis-vaccenate (18:1n7)  
adipate (C6-DC)  
acetoacetate  
3-hydroxybutyrate (BHBA)  
choline  
1-palmitoyl-GPC (16:0)  
2-stearoyl-GPC (18:0)  
1-oleoyl-GPC (18:1)  
2-arachidonoyl-GPC (20:4)  
2-docosahexaenoyl-GPC (22:6)  
glycerol  
cholesterol  
pregnanediol-3-glucuronide  
dehydroepiandrosterone sulfate (DHEA-S)  
16alpha-hydroxy DHEA 3-sulfate  
epiandrosterone sulfate  
androsterone sulfate  
etiocolanolone sulfate  
5alpha-androstan-3beta,17beta-diol disulfate  
5alpha-androstan-3,17-diol monosulfate (alpha,beta or beta,alpha)

## Total Number of Metabolites ..... 105

### Sample Types and Required Amounts

Sample Type	Sample Requirement
Mammalian Serum	200 µL
Mammalian Plasma	200 µL
Liver Tissue	50-100 mg

Contact us to get started [metabolon.com](https://www.metabolon.com)

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